

NOTES ON THE RUSH WEEVIL, *LIMNOBARIS* *RECTIROSTRIS* LEC., IN NEW JERSEY.

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The rush weevil, *Limnobaris rectirostris* Lec., which is mentioned by Smith (Insects of New Jersey, p. 395) as occurring at Hopatcong, South Orange and Newark was found by us during the season of 1923 at Weston, Griggstown, Stirling, Rocky Hill and Monmouth Junction, all in New Jersey, and the following notes refer to observations made for the most part at Monmouth Junction.

Occasional reference to the species is found in literature. Blatchley and Leng (Rhynchophora of North Eastern America) state that it ranges from New England and Canada to Michigan and Iowa, south to South Carolina. Harrington (Canad. Ent. xxiii, p. 26) says that it is found in June in wet localities upon club-rush (*Scirpus eriophorum*) in which the larva lives.

In New Jersey at Monmouth Junction, numerous adults were found on June 18 upon *Scirpus atrovirens* and to a less extent on *Scirpus cyperinus* feeding on the flower buds and making punctures in the sheath around the lower foot of the stem. Some were feeding on the tender, developing sheaths and many were found lurking in such places. Many eggs were noted at this time and were indicated by dark-reddish, longitudinal streaks on the stem, varying from three to five millimeters in length. Many of the egg punctures were found about one-half way up the stem or in the upper twelve inches. Although a few stems contained four or five eggs, most of them had but one. The female eats a channel part way in the tissue, through the sheaths and enlarges it at the end into a small, irregular egg cavity. Some cavities were almost in the middle of the stem but most of them did not reach this far. A single whitish, smooth egg is placed in each cavity and the entrance to the channel leading to the egg chamber is closed with shreds of plant tissue. The tissue around the egg and feeding punctures in the stem later becomes dark reddish in color. Each egg is sub-cylindrical, tapering slightly at both ends which are broadly

rounded and is about 0.8 mm. long and 0.35 mm. wide. They are not unlike jelly beans in shape.

By the last of June all of the adults had disappeared and most of the eggs had hatched. After hatching the larva burrows downward making a narrow, longitudinal channel in the pith, usually close to the bark. When first hatched the larva is rather narrow and elongate but later it becomes stockier. Sometimes the channels cross from one side of the stem to the other or continue down the centre. In some cases the channel was expanded every five or six inches into little feeding pockets. By the middle of July many larvæ had reached the bottom of the stem and were feeding extensively at this point. Later they ascended their burrows to a distance of five or six inches. Practically all of the larval feeding took place in the pith and as the vascular system was uninjured no damage occurred to the plant. By the middle of August the larvæ were six or seven millimeters long and much feeding had been done in the lower twelve centimeters of the stem. In infested plants close to the water the larvæ did not descend nearly to the roots as they did in other plants but remained several inches above the ground level. During the last week of September many larvæ had started to make cells in the pith six or eight inches above the ground. In very wet places they were higher. Harrington (loc. cit.) states that the larvæ overwinter in the upper part of the burrow so as to be safe from spring flooding. The cells were from thirteen to seventeen millimeters long and from three and one-half to four millimeters wide, some of them extending the width of the stem. Each end of the cell was plugged with excrement, frass, etc. The winter is passed by the larva in the cell and transformation to the pupal stage occurs about the first or second week of May the adults issuing during the first part of June and becoming abundant about the second week. The parasite *Habrocytus languria* Ashm. (identified by Mr. S. A. Rohwer) was reared June 18 from pupæ collected in the larval burrows.

The adult was described by Leconte in 1876 (Leconte & Horn, Proc. Amer. Phil. Soc. vol. xv, p. 315) from specimens collected in South Carolina and Illinois and a description of the larva by Dr. Adam Boving will be found in the following paper.